CLAIMS

I claim:

1. An immunodeficient mouse comprising:

a) human T lymphocytes expressing the CD45 antigen, wherein at least 5% of the human T cells expressing the CD45 antigen represent immature naive T lymphocytes; and

b) human tumor cells;

wherein said immunodeficient mouse is a SCID/beige mouse.

2. The mouse according to claim 1, wherein said tumor cells are from a tumor cell line.

3. The mouse according to claim 1, wherein said tumor cells are from a primary tumor.

4. The mouse according to claim 1, wherein said tumor cells are derived from central nervous system cells.

5. The mouse according to claim 4, wherein said tumor cells derived from central nervous system cells are glioblastoma cells.

6. The mouse according to claim 1, wherein at least one of said tumor cells contains at least one transgene.

7. The mouse according to claim 6, wherein at least one of said transgenes is a human immunomodulator gene.

8. The mouse according to claim 6, wherein at least one of said transgenes is delivered by a viral vector.

9. The mouse according to claim 1, further comprising an immunogen.

10. The mouse according to claim 9, wherein said immunogen is a vaccine.

11. A tumor cell vaccine comprising a tumor cell expressing B7-2 and at least one additional immune modulator.

12. The vaccine according to claim 11, wherein said at least one additional immune modulator is a cytokine.

13. The vaccine according to claim 12, wherein said cytokine is selected from the group consisting of interleukin 2, interleukin 4, interleukin 6, interleukin 7, interleukin 12, granulocyte-macrophage colony stimulating factor, granulocyte colony stimulating factor, interferon-gamma, tumor necrosis factor-alpha.

14. A method of treating a tumor comprising:

a) providing:

i) a subject having a tumor of the central nervous system;

ii) an expression vector encoding the human B7-2 protein and at least one additional immune modulator;

b) transferring said expression vector into said tumor under conditions such that said B7-2 protein and said immune-modulator are expressed by at least a portion of said tumor.

15. The method according to claim 14 further comprising, prior to transfer of said expression vector, the step of removing at least a portion of said tumor from said subject and following said transfer of said expression vector, irradiating said tumor cells expressing said B7-2 protein and said immune-modulator and introducing said irradiated tumor cells back into said subject to create an immunized subject.

16. The method according to claim 15 further comprising, introducing at least one additional dose of irradiated tumor cells expressing said B7-2 protein and said immune-modulator into said immunized subject.